



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------|------------------|
| 10/034,687 | 12/20/2001 | Robert E. Ray JR. | SP-1212.1 (EVE01 P-778) | 2319 |
| 20875 | 7590 | 12/01/2003 | EXAMINER | |
| ROBERT W WELSH EVEREADY BATTERY COMPANY INC 25225 DETROIT ROAD P O BOX 450777 WESTLAKE, OH 44145 | | | CANTELMO, GREGG | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1745 | |
| DATE MAILED: 12/01/2003 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,687

Applicant(s)

RAY ET AL.

Examiner

Gregg Cantelmo

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 3 & 6. 6) ☐ Other: ____.

DETAILED ACTION

Response to Preliminary Amendment

1. The preliminary amendment received September 30, 2003 has been entered.

Information Disclosure Statement

2. The information disclosure statements filed December 20, 2001 and October 3, 2003 have been placed in the application file and the information referred to therein has been considered as to the merits.

Drawings

3. The drawings received December 20, 2001 are acceptable for examination purposes.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1745

6. Claims 1-44 recites the limitation "the seam member" in the amended portion of the claims. There is insufficient antecedent basis for this limitation in the claim. The term has been interpreted to be "the seal member".

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-5, 7, 13-18, 20-24, 28-35, 37, 43 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 59-033751-A (JP '751).

Submission of the certified translation of this application by Applicant is noted and appreciated.

JP '751 discloses an electrochemical cell comprising a container 4 having a bottom end and an open end, a positive electrode 1 and negative electrode 2 disposed in the container 4, a seal member 6 disposed in the open top of the container for closing the open top end of the container, the seal member having an opening defined by an upstanding wall, a current collector shaft 5 extending through the opening in the seal member, contacting the electrode 2, wherein the current collector is interference fit within the opening such that the wall of the seal member sealingly engages the shaft of the current collector when in a sealed position and one of the wall of the seal member and the current collector is axially movable relative to the other of the wall and seal

Art Unit: 1745

member to move to a vent position upon experiencing a pressure so as to provide a pressure relief passage between the seal member 6 and the current collector 5 (Fig. 3 as applied to claims 1, 16, 24 and 32).

The seal member and current collector form a collector and seal assembly (Fig. 3 as applied to claims 2, 22, 29 and 33).

The current collector is forced to move to a vent position (Fig. 3 as applied to claims 3 and 34).

An outer cover 13 and a conductive connector 9 are coupled to the current collector (Fig. 3 as applied to claims 4, 17 and 35).

An inner cover 4 is electrically insulated from the outer cover (Fig. 3 as applied to claim 5).

The conductive connector 9 is a plate spring and the configuration shown in Fig. 3 is of a bowl shape (as applied to claims 7, 18, 20 and 37).

The seal member comprises a polymeric material including polypropylene (translation page 6, about ll. 18-23 as applied to claims 13, 31 and 43).

The collector assembly and seal member are configured to engage (Figs. 2 and 3 as applied to claims 14 and 44).

The electrolyte is an alkaline electrolyte (claim and page 3, second paragraph of the translation as applied to claims 15, 23, 30).

The conductive connector 9 is a plate spring which applies a biasing force to the current collector 5 to force the collector towards the seal member (Figs. 2 and 3 as applied to claim 21).

Art Unit: 1745

A vent path is provided in the seal to prevent resealing of the current collector 5 and seal member 6 when in the vent position as shown in Fig. 3 (applied to claim 28).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6, 19 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '751 in view of U.S. patent No. 5,888,909 (Pedicini).

The teachings of JP '751 have been discussed above and are incorporated herein.

The difference between the instant claims and JP '751 is that JP '751 does not teach or the connector being a compressible coil spring.

Pedicini teaches that the use of compressive coil springs as means for imparting a compressive force on internal components of a venting structure in an electrochemical cell.

The motivation for using a coil spring is that it provides an equivalent means for imparting a compressive force on the components in the electrochemical cell and equivalent response means for venting the cell under pressure buildup in the cell.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '751 by using a coil

Art Unit: 1745

spring since it would have provided an equivalent means for imparting a compressive force on the components in the electrochemical cell and equivalent response means for venting the cell under pressure buildup in the cell.

Allowable Subject Matter

11. Claims 8-12, 25-27 and 38-42 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 8-12, 25-26, and 38-42, none of the prior art of record appear to teach, suggest or render obvious the venting structure further defined in claim 8 wherein the current collector includes an enlarged diameter step on the shaft wherein the upstanding wall of the seal member moves along the shaft of the current collector and is retained by the enlarged diameter step in the sealed position and wherein the wall of the seal member is forced to move over the enlarged diameter step to the vent position.

JP '751 does not teach or suggest this arrangement.

With respect to claim 27, none of the prior art of record appear to teach, suggest or render obvious the invention of claim 27 wherein the current collector includes one or more flutes formed therein for providing pressure relief passage when in the vent position.

Art Unit: 1745

JP '751 does not teach or suggest this arrangement.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (703) 305-0635. The examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan, can be reached on (703) 308-2383. Note that these telephone numbers will change around January 1, 2004. At such time the examiners new telephone number will be (571) 272-1283 and the examiner's supervisor's number will be (571) 272-1292. FAX communications should be sent to FAX number: (703) 872-9306. FAXES received after 4 p.m. will not be processed until the following business day. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gregg Cantelmo
Patent Examiner
Art Unit 1745

gc



November 20, 2003